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### REMARKS

The application has been carefully reviewed in light of the Office Action dated March 11, 2005. The applicant believes that the following remarks, when considered by the Examiner, will enhance the Examiner's understanding and place the application in condition for allowance.

#### Rejection under 35 U.S.C. § 103

Claim 1 – 5, 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Young (U.S. Patent No. 5,169,486). Applicant respectfully traverses the rejections and requests reconsideration.

The Office Action fails to establish a *prima facie* case of obviousness of the subject matter of claims 1 and 7. Courts have generally recognized that a showing of a *prima facie* case of obviousness necessitates three requirements: (i) some suggestion or motivation, either in the references themselves or in the knowledge of a person of ordinary skill in art, to modify the reference or combine the references' teachings; (ii) a reasonable expectation of success; and (iii) the prior art references must teach or suggest all of the claim limitations. See e.g., *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999); *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996). The Young reference fails one or more prongs of obviousness in that, it fails to teach or suggest all of the claim limitations of the present invention.

In the present case, as mentioned above, Young fails to teach or suggest the subject matter of claims 1 and 7. As the examiner suggests, Young discloses a method and apparatus for a vertical Bridgman crystal growth with thermocouples that are placed in different spots in the heater to measure temperatures at the central axis of the crucible. The thermocouples in the Young reference are arranged one above another and measure temperature in the axial direction. They enable the controller to run a program to heat the crucible, establishing an axial temperature gradient therein. Young does not teach measuring temperature differences

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in a radial direction, such as in the present invention. Controlling the temperature in the radial direction, such as in the present invention, provides for flat isotherms. The Young reference does not disclose a method or apparatus for controlling the temperature of the crucible in the radial direction. Therefore, the resulting isotherms will be concave or convex, resulting in a defective crystal lattice structure. Therefore, Young does not render claims 1 or 7 obvious because it does not teach every element of the claim.

For the reasons stated above, claims 1 and 7 have been placed in a condition for allowance. Therefore, claims 2 – 5, and Claim which depend from claim 1 and 7, respectively, have been placed in condition for allowance.

**Rejection under 35 U.S.C. § 102(b)**

Claims 6 and 9 stand rejected under 35 U.S.C. § 102(b) as anticipated by Young. Claim 6 has been cancelled. Applicants respectfully traverse the rejection of Claim 9 and request reconsideration.

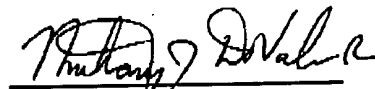
Claim 9 has been amended to depend from Claims 7 or 8. As discussed above, the applicant believes that Claim 7 is in condition for allowance. Claim 8 depends from Claim 7. Therefore, Claim 9 is in condition for allowance.

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In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. No fee is believed to be due in connection with this submission. However, if a fee is due, the Commissioner is hereby authorized to charge any such fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

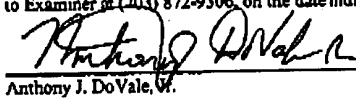


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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence, including any items indicated as attached or included, is being transmitted via facsimile transmission to Examiner at (703) 872-9306, on the date indicated below.

  
Anthony J. DoVale, Jr.

June 13, 2005  
Date

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